REMARKS

It is respectfully requested that the above amendments be entered prior to calculation of the filing fee and prior to examination. The amendments have been made to place the application in better form for U.S. practice and to round out the coverage to which Applicants are entitled. No new matter has been added.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

Respectfully submitted,

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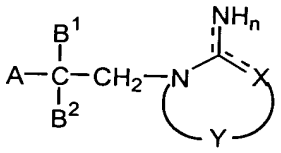
APPENDIX

IN THE CLAIMS

Please amend Claims 1, 3-6, and 8-12 as follows:

1. (Amended) Heterocyclic compounds represented by the [following formual] formula (I):



(I)

wherein:

A is an optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group;

B^1 and B^2 are[,] each a hydrogen atom; an alkyl group; or a hydroxyl group; or combined together [to represent] form a carbonyl group;

X is an oxygen atom; sulfur atom; carbon atom; or nitrogen atom;

the dotted line shows either the presence or absence of a bond;

n is an integer of 1 or 2; and

Y is[,] :

(1) [in the case of] when X is an oxygen atom, the group -Y-X- is $-CH_2-CH_2-O-$ or $-CH_2-CH_2-CH_2-O-$;

(2) [in the case of] when X is a sulfur atom, the group -Y-X- is $-CH_2-CH_2-S-$ or $-C(R^1)=C(R^2)-S-$, wherein [(in which,] R^1 and R^2 are each a hydrogen atom; halogen atom; optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group[)];

(3) [in the case of] when X is a carbon atom, the group -Y-X- is $-CH_2-CH_2-CH_2-$, $-CH_2-CH_2-CH_2-CH_2-$, $-CH=C(R^3)-C(R^4)=CH-$ or $-N=C(R^5)-C(R^6)=CH-$, wherein [(in which,] R^3, R^4, R^5 and R^6 are each a hydrogen atom; halogen atom; optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group[)]; and,

(4) [in the case of] when X is a nitrogen atom, the group -Y-X- is $-CH_2-CH_2-NH-$, $-CH_2-CH_2-CH_2-NH-$, $-C(R^7)=C(R^8)-N=$, or $-C(R^9)=C(R^{10})-C(R^{11})=N-$, wherein [(in which,] R^7, R^8, R^9, R^{10} and R^{11} are each a hydrogen atom; halogen atom; optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group[)];
or pharmaceutically acceptable salts thereof.

3. (Amended) [Activators] A composition useful as an activator for $\alpha4\beta2$ nicotinic acetylcholine receptors [containing] comprising the compound or pharmaceutically acceptable salt thereof claimed in claim 1 or 2, as the active ingredient.

4. (Amended) [The activators for $\alpha4\beta2$ nicotinic acetylcholine receptors] A composition according to claim 3, wherein said activators are agonists or modulators at $\alpha4\beta2$ nicotinic acetylcholine receptors.

5. (Amended) A medicament for preventing or treating cerebral circulation diseases comprising an effective amount of the activator for α4β2 nicotinic acetylcholine receptors claimed in claim 3 [or 4].

6. (Amended) A medicament for preventing or treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease comprising an effective amount of the activator for α4β2 nicotinic acetylcholine receptors claimed in claim 3 [or 4].

8. (Amended) A medicament for improving [the] cerebral metabolism, neurotransmission functional disorder and memory disorder, for protecting the brain, or [having] for providing analgesic effect, which comprises an effective amount of the activator for α4β2 nicotinic acetylcholine receptors claimed in claim 3 [or 4].

9. (Amended) A medicament for preventing or treating inflammatory intestinal diseases comprising an effective amount of the activator for α4β2 nicotinic acetylcholine receptors claimed in claim 3 [or 4].

10. (Amended) [The use of the compounds claimed in claim 1 or 2 as the activators for] A method of activating α4β2 nicotinic acetylcholine receptors in a patient comprising administering an effective amount of a compound as claimed in claim 1 or 2 to said patient.

11. (Amended) [The] A method of preventing or treating cerebral circulation diseases which comprises administering [activators] an effective amount of an activator for α4β2 nicotinic acetylcholine receptors claimed in claim 3 [or 4].

12. (Amended) [The] A method of preventing or treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease which comprises administering [activators] an effective amount of an activator for α4β2 nicotinic acetylcholine receptors claimed in claim 3 [or 4].